

...from concept to acquisition

NAVAL WIRELESS NETWORKS SUMMIT

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*Sponsored by: NETWARCOM and PEO ships
Hosted by: SPAWAR AND PEO C4I*



The Role of WirelessMAN™ in the Convergence of Wireless Services

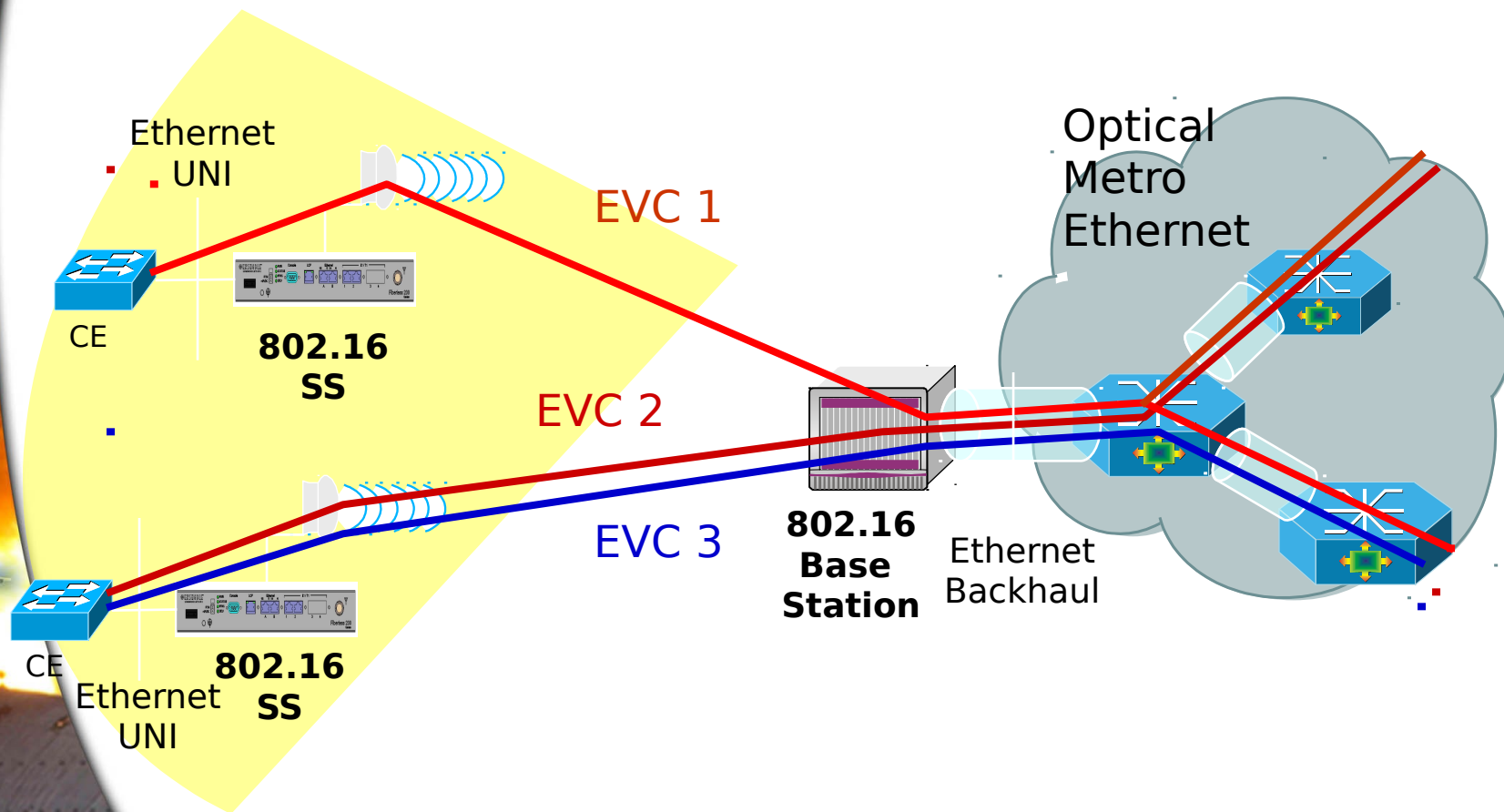
***802.16/WiMAX and it's
relationship to other
wireless technologies***



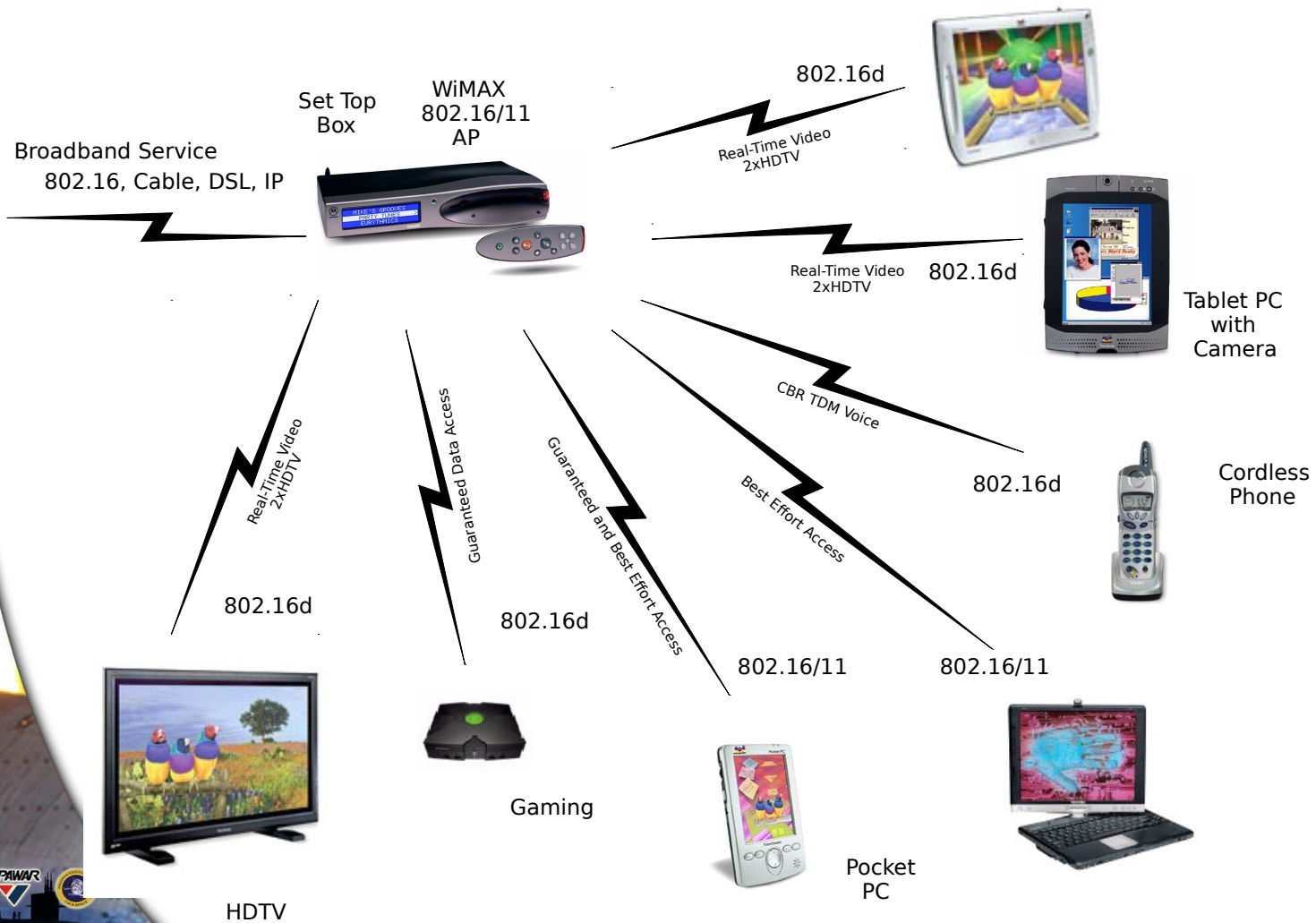
The Problem to Solve

- ***Last Mile Extension of Fiber and Cable***
 - ***Users want access to networks***
 - ***Network operators want access to customers***
 - ***Backhoes do not follow Moore's Law***
- ***Multimedia Distribution***
 - ***Data***
 - ***Data with QoS (Gaming, etc.)***
 - ***Voice***
 - ***Video distribution***
 - ***Real-time videoconferencing***

802.16 in Metro Ethernet



Vision - Wireless Multimedia Distribution





Always Best Connected

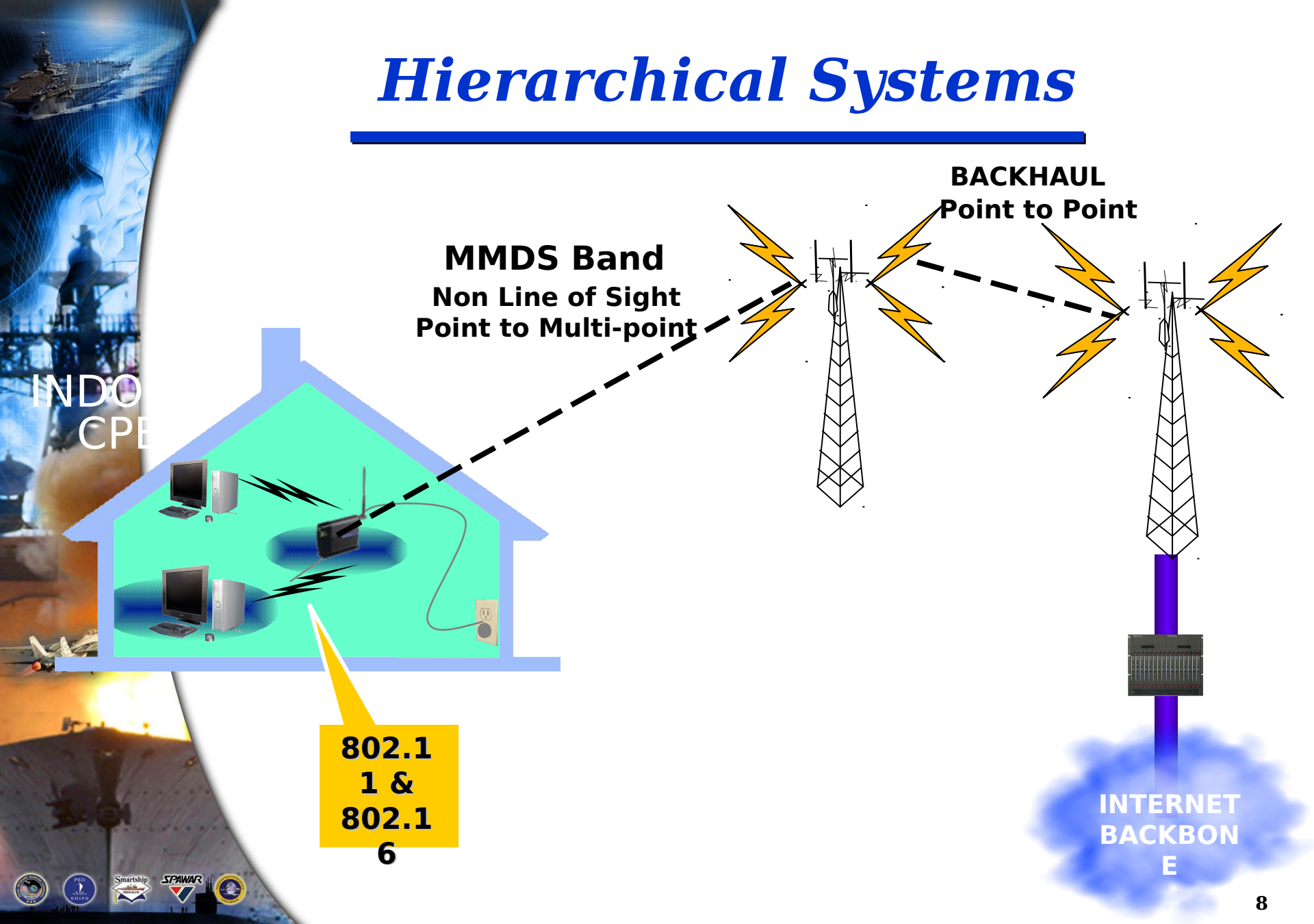
- ***Laptop or other device with both 802.11 and 802.16 capability***
- ***802.16e mobile data/voice device***
 - ***Transition outdoors-indoors***
 - ***Extended Warrior Networks***
 - ***ForceNet applications***
 - ***Unmanned systems connectivity***
 - ***Shipboard Intra-Ship networks***



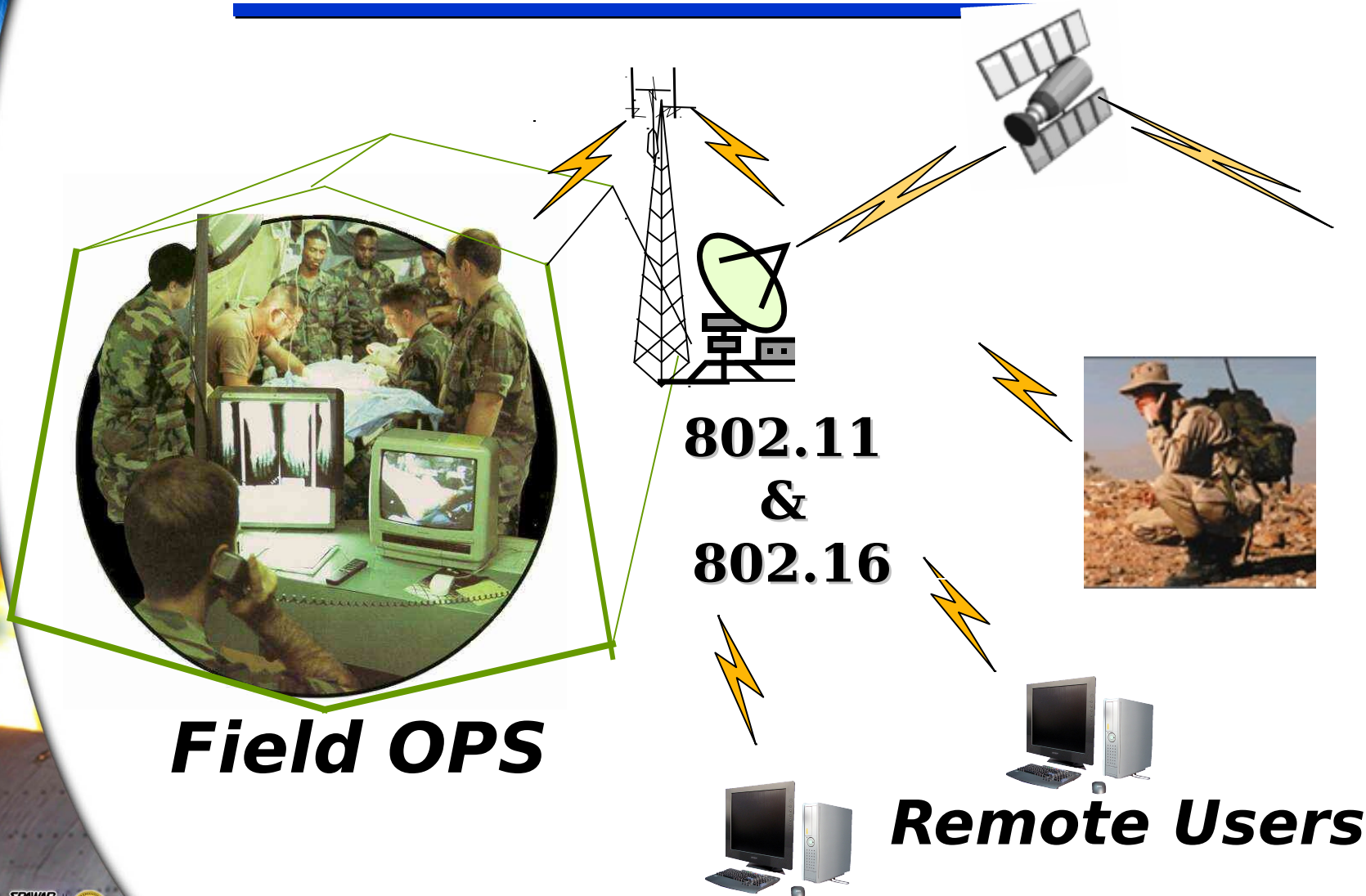
Complementary Capabilities

- ***IEEE 802.16/WiMAX***
 - *Distribution*
 - *Strict QoS*
 - *Mobility*
- ***IEEE 802.11/Wi-Fi***
 - *Data LAN*
 - *Extensive Availability*
- ***IEEE 802.15.x***
 - *Cable Elimination*
 - *Low Power*
 - *Numerous Application Specific Variants*

Hierarchical Systems



Deployed Wireless Networks



Unmanned Systems use of 802.16 WBN

*Airborne - Terrestrial - Water
Integrated networks*

*Robotic groups networked
communications/control*

*Border
surveillance
from air
and
ground
sensors¹⁰*

Homeland Security Communication Network



**Unmanned
Data relay**

**Joint Navy, Civil, Municipal
San Diego program**

**Information
flow
From sensors**



**Joint Harbor
Operations Center
(JHOC)**



Action



USCG Cutter

**Fire
Dept.**

USCG

Police

FEMA

**First Responders 802.16
Network**



Key Target Programs

- ***JTRS Program: Solving the network issues***
- ***DHS: First Responders network***
- ***SPAWAR:***
 - ***Unmanned Systems interoperability***
 - ***Shipboard Networks***
- ***CECOM:***
 - ***US Army electronics and communications enhancements to mobile comm packages***



Conclusions

- ***IEEE 802.16/WiMAX can be complimentary with other wireless standards***
- ***Users benefit from hierarchical systems***
- ***Consumer use scenarios map to military and homeland security applications***